

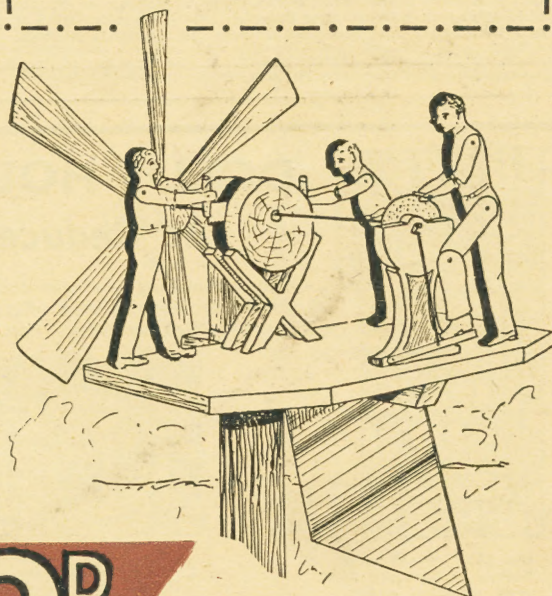
Hobbies

WEEKLY



**CORONATION
PLAQUE DESIGN
FREE INSIDE**

Patterns for this
**WORKING
WINDMILL**



April 24th. 1937

2^D

Vol. 84. No. 2166

**THE FRETWORKER'S AND
HOME CRAFTSMAN'S JOURNAL**

CRAMPS for WOODWORKERS

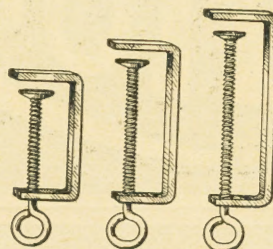
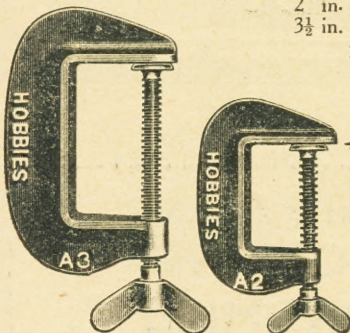
These cramps are specially designed and made for the amateur. Being Hobbies own make, they are strong, reliable and well finished. A selection of them is necessary to any woodworker or fretworker, whilst they also come in useful on a hundred and one occasions for odd jobs about the house.

LIGHT STEEL CRAMPS

These are made from light steel, and quite cheap. The screw is clean cut and accurate. This is the cramp to use in holding small work flat in gluing or fixing.

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THE "A" CRAMPS

A strong and heavier type of cramp which will not give under any pressure. They are of light case metal, finished with polished surface and fitted with a square thread screw.

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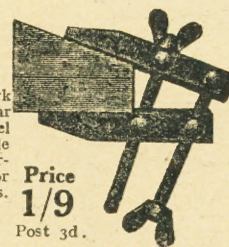
Call at Hobbies Branches in London, Glasgow, Manchester, Birmingham, Sheffield, Leeds, Southampton, Brighton. Also obtainable through your local ironmonger or by post from Hobbies Ltd., Dereham, Norfolk.

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For holding work having two irregular surfaces. A novel and effective little cramp with universal movement, for any job up to 1½ ins. square.

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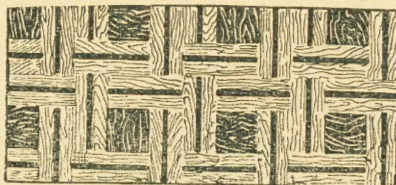


DOLL'S HOUSE PAPERS At Reduced Prices!

If you are making your own doll's house these are the papers you need. They are now offered at new low prices. Sheets measure 22ins. by 20ins. Postage is extra.



No. 162. Black and Yellow on Orange. A very effective paper. 1½d. per sheet. 1/3 per dozen.



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Buy from any Hobbies Branch or Agent, or order direct from Hobbies Limited, Dereham, Norfolk. See 1937 Handbook for full range.

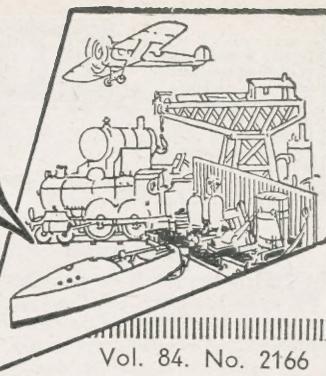


No. 140. Brick Paper in natural colours. 1½d. per sheet. 1/3 per dozen.



Hobbies

WEEKLY



April 24th. 1937

Vol. 84. No. 2166

THIS week we have the second portion of the article on how to make a Garden Fountain, and I know it will be particularly acceptable because of the number of readers who have written to me asking about one. This article supplies details of a simple system for feeding which is applicable in almost any town garden.

ANOTHER popular article in this issue is the details for making a working wind indicator. The shape provides for men sawing a log of wood and working according to the strength of the wind. It is most amusing to see them sawing away at a terrific rate in a strong wind, and just as comical when they are only lazily moving in a slight breeze. Actual patterns for the men will be given later, but in the meantime you can be getting along.

NOW for next week, I have another big surprise and a feature which I know will delight you all. There will be simple details for a novel Coronation Medal Stand. Nothing elaborate or costly to make. Nothing even the beginner cannot undertake. And in connection with it I am offering special medals which everyone should have for the event, and which they can keep always on the striking display stand. Moreover, there will be an announcement about a Competition with prizes worth having. So do make sure and have your copies kept by the newsagent. Tell him whatever he does, he must *not* sell your Hobbies.

WOULD you like Cigarette Cards from Siam? Something quite out of the ordinary, isn't it? Well, I find there is a gentleman advertising them this week in our Miscellaneous Advertisement page. Quite a quaint thing to be able to show your friends, isn't it, and I hope you always read our advertisements to notice these special offers.

ISEE the people who issue Poster Stamps for collectors have just got out an interesting album and series of stamps for the Coronation. If you are making a collection of things in connection with this event you should certainly include these. I will tell you where to get them if you write.

IN connection with the Coronation, too, our fretmachines are coming in handy to cut out the display work. For both people and public bodies. I know of one Council in Essex which is employing four of our machines for the work, and finding them exceedingly useful.

HERE is an interesting point which should be remembered by anyone using glue from a tin or container—not in ordinary tubes. In order to keep the glue at a constant viscosity (that is, degree of stickiness) an equal amount of water must be added to replace that used. Thus, if you have a pound tin in use, half of which has gone then half a pound of water must be added to the remainder before further work is undertaken. If this is not done the remaining glue in the pot will prove too thick to hold to the surfaces as required.

SO many readers have written me about making their own horses for the Coronation Coach that I have had a rough outline tracing prepared so they can cut them out with a fretsaw.

Three pieces glued together form the thickness of the horse and the rider is made up in the same way. The tracing can be stuck down to the wood in the usual way, and cut up, shaped and painted. The drawings will be sent post free if you send me 3d. in stamps to cover the cost. There is still time to make them even if you have finished the Coach itself.

The Editor

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Next Week's Design—Vase Stand

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the Reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc. are on cover iii.

Send your own simple tips to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

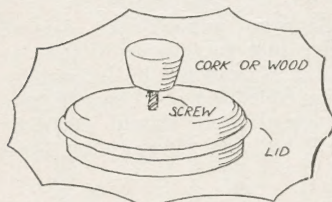
HINTS AND TIPS



For original Tips published the sender will receive a Hobbies Self-filling Fountain Pen. We cannot acknowledge or print all tips sent in.

Replacing a Knob

WHEN the kettle or pan lid knob has come off, the best way to replace it is to put a screw through the hole where the old



knob was fastened. After this, fix the screw into a piece of wood or cork. The knob is finished.—(J. Wray).

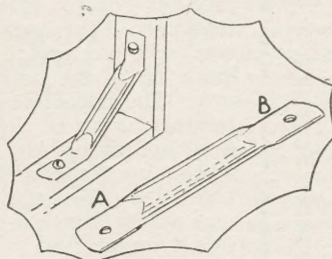
Burst Pipes

IF you experience a burst pipe, here is a useful tip on how to temporarily mend it. Get an old bicycle innertube and slit it down the middle, wrapping it tightly round the burst. Then tightly wrap some insulated tape round the rubber to secure it. Finish off, by wrapping a strip of felt around the whole pipe. This will last for about 18 months.—

(S. E. Puddefoot).

Trailer Brackets

HERE is a simple tip when making a trailer caravan. When you cannot obtain corner brackets, just take a piece of brass pipe about 7 ins. long. When you



have the pipe cut into pieces, flatten out as at A and B, each end about an inch. Then just bend the flattened ends to whatever angle is needed and fit to the corner as the other sketch.—

(R. Johnston).

Antique Finish

IF you want to give your Coronation Chair an antique finish, polish it with a wax made of yellow wax, dissolved in turpentine over a steam bath, so that it makes a paste of medium consistency. Resin can be added, as this gives the powers of hardening rapidly, and being easily and quickly polished. This is applied with a stiff brush and allowed to stand for a day. Then polish with a medium stiff brush and a clean fluffless rag, always using plenty of pressure. If resin has been added, heat the rag a little to prevent it sticking. After a final polish, brush the chair over with lamp black mixed with water. When dry, brush over with the medium stiff brush. This gives the work an antique finish which will make your chair look very real. It would be best to cut out your parts, test them in position, polish and fit up, not using much glue, so it will not make the surface sticky.—(S. Cavanagh).

Fretframe Grip

IF you have an odd rubber handle grip lying around, this makes a very good "grip" for a fretsaw handle. The bottom is first cut off and then the grip is worked on to the fretsaw handle. Sometimes the handle of a fretsaw gets very slippery, and this will give an extra hold on it.—

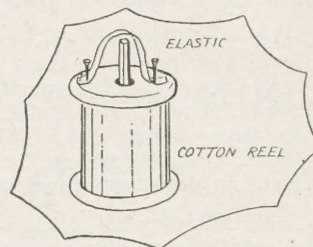
(C. Byrne).

Sails for Model Galleons

TAKE a piece of coarse calico and stretch it over a frame, such as an old picture frame. Give the cloth coatings of white paint till stiff. Then cut about 1/4 in. larger than required. Bend edges over wire and when stitched, bend to shape as if filled with wind. A coating of thin smut paint gives it an aged and used look. Then attach to spar as required.—(N. Gunn).

A Simple Match Shooter

GET a reel and a piece of elastic 1 1/2 ins. long. Then nail the elastic to the reel so as to fit the hole as shown. The match is



then put in at the opposite end and the elastic stretched. When allowed to go, the match will jump forward some distance.—

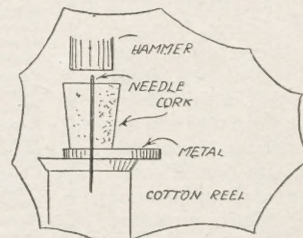
(H. F. Williams).

Drilling Holes

IT is very awkward when a hole is to be drilled and one has not a drill the right size; or, when the hole is drilled, is not quite big enough. This can be overcome by drilling the hole with a drill one size smaller. Then remove drill from brace and insert a round file just big enough so that the end will fit in hole and file will not go any further in. By turning the reverse way to that as when drilling, the difficulty will be overcome.—(E. R. Bean).

A Simple Metal Drill

TO make small holes in coins and metal, get a cotton reel and place the metal over the hole at the spot where you wish to make the hole (see sketch). Put a



needle through a cork lengthwise, and place it on the metal. Now give the needle a sharp tap with a hammer, and the needle will go straight through the metal.—

(W. Brace).

FRETWORK



WE have pleasure this week in offering our readers another Coronation Design which we are sure will be popular. In connection with it we have been to great expense in obtaining a special commemorative plaque which is a handsome circular disc in embossed copper, and stands out in striking relief on any piece of work.

The plaque is 4ins. in diameter, and bears a realistic picture of the King and Queen in profile, with their crowns and robes. Round them is suitable wording, as can be seen from the replica which we reproduce here.

This plaque is used as a centre piece on a typical Coronation wall ornament which is cut in fretwork of two varieties. The idea of the two varieties is that the main outline which is a plain board, should be in contrast to the other work upon it. A good plan indeed, would be to have this main backing in wood which is dyed with ebony stain then highly polished.

If the rest of the overlays are cut in whitewood and fixed upon this black background, the whole thing will stand up in a very striking manner. Then again, the overlays contain much which is of topical interest for the Coronation itself. There is the Orb, the Crown, the two Sceptres, and the wording "Coronation, May, 1937."

All of this has been wonderfully well worked into a design which will undoubtedly be popular, and will be well worth making up in commemoration of this great national event.

An Exhibition Piece

You must remember, too, there will be quite a number of exhibitions and undoubtedly a number of prizes for decorations, displays, etc. in which such a piece of work as this would come in useful. We would, therefore, suggest all readers to commence on it at once, and have it in readiness. In any case, it will serve as a lasting reminder and prove an admirable wall ornament.

Now let us look at the design sheet, and see how the parts are put out. The material list shown provides the necessary wood, and in this parcel the main backboard is of dark timber, whilst the remaining portions for the overlays are in whitewood.

MATERIALS SUPPLIED

Fretwood.—For making this Plaque we supply a parcel of dark wood for back, with whitewood for overlay, 3/6 post free 4/-.

Fittings.—A beautiful metal bronze lacquered panel of Their Majesties King George VI. and Queen Elizabeth, 1/3 post free 1/6.

Complete parcel wood and fittings 5/- post paid.

With regard to the designs themselves, it will be noted that on the sheet the pattern for the main outline is shown relative to its proper position with the main overlay. This main back is cut from $\frac{1}{4}$ in. wood, but the large overlay is only from $\frac{3}{16}$ in. material.

A CORONATION PLAQUE



Made from Design No. 2166

We do not advise cutting out the two patterns and endeavouring to paste them down separately, because you will find that the paper containing the outline portion will be fragile and flimsy, and difficult to lay down on to the wood correctly to shape.

A better plan is to trace it off with a piece of transparent paper or to lay a piece of carbon paper between the design patterns and the wood, then go over the outline carefully with pencil. The main thing is to get a correctly balanced shape and to see that the grain of the wood runs up and down.

Having obtained this outline in pencil on the wood, the pattern of the main overlay can be pasted down on its $\frac{3}{16}$ in. material. The other patterns can also be pasted down at the same time. A circular rim is provided for the copper plaque but only half of this is shown through lack of room. It should, however, be a simple matter to

describe two circles on a piece of wood. The inner one is $2\frac{1}{16}$ in. radius and the outer one $\frac{1}{2}$ in. longer.

Another pattern shown broken is the stiffener for the back. This is a piece cut from $\frac{3}{4}$ in. wood $\frac{5}{8}$ in. wide and 10 ins. long. The other patterns of the two overlays can be pasted direct down to $\frac{3}{16}$ in. boards, the grain in this case running longwise across the design.

Now for the actual cutting. The order in which the parts are got out does not really matter, but it is a good plan to do them as they will be put together so they can be tested in place as needed.



A picture of the bronzed plaque

For that reason commence upon the main outline board, which is a plain piece of fretwork cut carefully to the shape of the pattern. Then get out the largest overlay, keeping the shapes of the laurel leaves symmetrical and even.

Take care, too, in turning the work, not to knock any of the long projecting pieces off. If you are likely to do this, it is better to do all the interior work first, then to go round the outline last.

The orb at the bottom must be cut with a fine fretsaw to get the straight and narrow lines, then the half dozen holes drilled with a fairly coarse drill point.

Cleaning and Finishing

Clean up the part thoroughly both back and front, and use some of the small fretwork files if necessary to finish off any little angles or corners which have been cut incorrectly.

You cannot really spend too much time on this cleaning because the work can be very much marred if these little points are overlooked.

Coming to the other overlays we have some wording which must be done carefully, and the projecting portions of Crown and Sceptres. In the case of the larger overlay it is certainly advisable to do all the interior work before going round the outline—for the same reason as was mentioned in the other piece.

A good plan in connection with the wording, too, is to run a pencil right across the top and bottom of the letters as this will help you to get straight when you come to the ends of each letter.

Cut out the Crown very carefully and hold it firmly to the table so it does not break or lift during the process of cutting. The Sceptres are a little ticklish in going round them, but by careful manipulation you can get all the tricky little points and curves therein. Do make sure to get these right because the actual shape of the Sceptre is important, and will look unsightly if badly done.

Here again we must take care in cleaning up, and give the whole thing a thorough rubbing with glasspaper so the wood comes down to its natural state.

Take off the pattern with a coarse grade first, then finish off with a finer grade. Be careful not to scrub the wood so hard that it becomes scratched.

Be careful also to keep the paper flat on a block of wood or something similar, and not to let any edges of it catch into the projecting portions of the overlay. On the other hand you must keep the glasspaper block quite flat in order not to round off any of the edges. Do not forget, too, to give the back of the wood a rubbing in order to take off any saw burr which may have appeared.

The Date Overlay

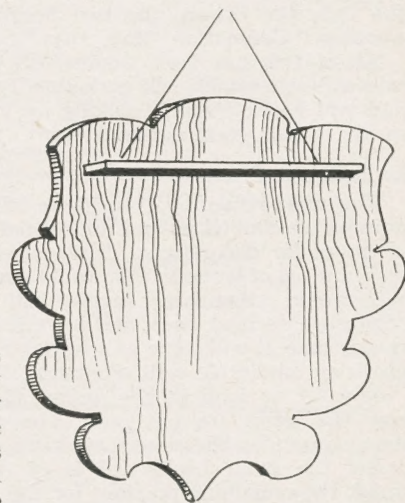
The remaining overlay is the small one bearing the date, and this is perfectly straightforward. Here again we naturally have to pay attention to the height and size of the letters and figures to ensure they stand in a perfectly straight line.

There is still the circular rim, but this is a perfectly straightforward piece.

Having then and cleaned up all the parts the next thing is to put them together. If you are staining and polishing the backboard as previously

recommended, this should be done now.

The circular rim of wood is now glued to the largest overlay and in the centre of it is nailed the copper plaque supplied. It is fixed by three or four very fine copper nails driven through into the back, and



How the stiffener is fixed behind

if necessary turned over behind. You should, of course, make a hole for these nails first, and not attempt to drive them through with the hammer so you will cause an inside indentation in the metal.

Some workers may like to back up the wording of Coronation and May, 1937 with silver paper or some bright material. If so this can be glued behind the wording then cut to the same shape as that portion of the overlay.

A MOVING FIGURE WIND VANE

A large number of readers have asked for one of those mechanical figure movements operated by the wind. Here is one sure to be popular, with full size patterns of parts and figures.

ON the centre page will be found full size patterns for making this interesting model. The side view, Fig. 1 shows all the parts glued and fitted together. A and B are pieces of 1in. sq. stripwood, C a piece of $\frac{1}{2}$ in. by 1in. stripwood. Drill the $\frac{1}{4}$ in. holes in A and C directly in line as the pivot pin, on which the model swings, passes through them.

Brass bearing plates are needed here, else the continual swinging will soon enlarge the holes. The pattern for the plates G, should be stuck on to a piece of $\frac{1}{8}$ in. thick brass and sawn out. One is screwed to C and the other to A, underneath. Dotted lines indicate their position.

Cut out brass plates H and screw where shown to pieces B, the centre holes being $\frac{1}{8}$ in. Cut parts D of $\frac{3}{4}$ in. by $\frac{3}{4}$ in. stripwood and fix across A where the platform will come. A halved joint will do here. The platform is cut from $\frac{1}{2}$ in. thick wood 1ft. 6ins. long and 9ins. wide. It is notched to fit round the post B and screwed from beneath to cross bars D and A.

The fin is cut from stout zinc 9ins. long and 6ins. wide to the shape shown. Half an inch is bent over at right angles and this is screwed to the centre of A, beneath. See that it is not likely to foul the post when swinging.

The post should be reasonably stout and set firmly in the ground. Set it

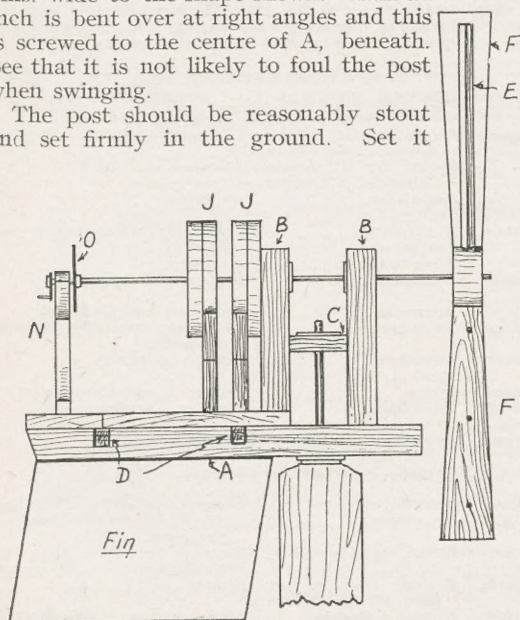
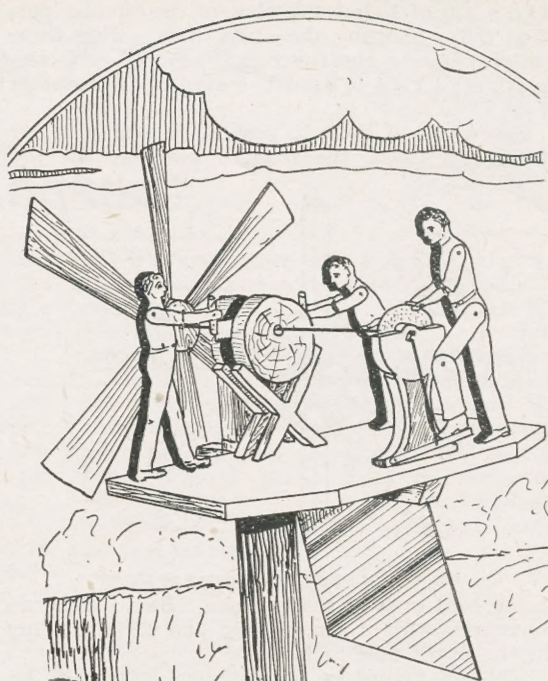


Fig. 1—A side view showing the various parts



vertical, and in the centre of the top drive in a piece of $\frac{1}{4}$ in. diameter mild steel rod for a pivot pin. Fix this rod truly upright, slip an iron washer over it, then the wind indicator and try for fit.

The hub of the driving wheel is a 2in. disc of 1in. thick wood. Divide into six equal parts round the edge and in each part bore a $\frac{3}{8}$ in. hole, $\frac{1}{2}$ in. deep, also drill a central hole for the spindle—a length of $\frac{1}{2}$ in. silver steel rod. The fit for this must be tight.

The Vanes

Cut parts E of $\frac{1}{2}$ in. sq. stripwood, round one end of each to fit the holes in the hub, and glue in, as in Fig. 2. Cut the six vanes, F, from $\frac{1}{2}$ in. fretwood or stiff zinc and screw to the spokes E.

The spindle should be driven tightly on the wheel and then pushed through the bearing holes in B. A couple of collars, with set screws, being placed where shown in Fig. 1 to keep the spindle from riding along. The spindle should be long enough to come within 1in. of the rear edge of the platform.

LIST OF TIMBER

- | | | |
|--------------------------------------------------|------------------------------------|---------------|
| 1in. by $\frac{1}{2}$ in. stripwood | 1 piece 14ins. long. | |
| | 2 pieces 8ins. long. | |
| $\frac{1}{2}$ in. by 1in. stripwood | 1 piece 4ins. long. | |
| $\frac{1}{2}$ in. by $\frac{1}{2}$ in. stripwood | 2 pieces 16ins. long. | |
| $\frac{1}{2}$ in. by $\frac{1}{2}$ in. stripwood | 6 pieces 8ins. long. | |
| 2in. beech | 1 piece 5ins. by 24ins. for sails. | |
| | 2 pieces 5ins. by 12ins. | |
| $\frac{1}{2}$ in. oak | 1 piece 3ins. by 6ins. | |
| | 1 piece 6ins. by 9ins. | |
| | 1 piece 3ins. by 9ins. | Figures, etc. |
| $\frac{1}{2}$ in. deal or oak | 1 piece 9ins. by 18ins., platform. | |
| 1in. beech | 1 piece 2ins. by 2ins., wheel hub. | |
| $\frac{1}{2}$ in. dowel rod | 1 piece 6ins. long, saw handles. | |

Metal

- $\frac{1}{2}$ in. brass plate, 1 piece 1in. by 5ins.
20 S.W.G. brass sheet (hard), 1 piece 7ins. by 12ins.

Cut two of parts J from $\frac{1}{2}$ in. thick wood and two again of J, but this time of the circular portion only, omitting the stand part. Glue these latter parts to the front and back of each respective part J. You will see what is meant in Fig. 1.

Screw one of these to post B. Lever M is cut from stiff brass, the reduced piece at the top

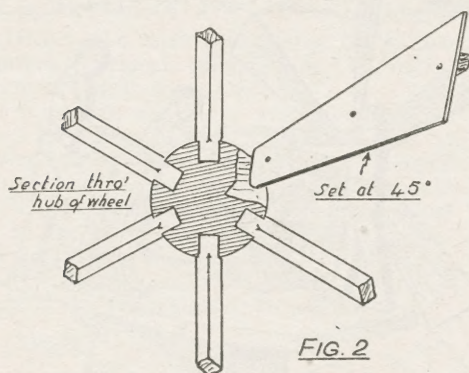


Fig. 2—The supports and vanes on the hub

being bent over at right angles. Buy a Meccano eccentric, with a $\frac{1}{4}$ in. throw, and rivet the lug in the upper hole in M.

This joint must be an easy one. Pivot M, by means of a screw through the lower hole at about the spot shown marked by a short arrow on J. The relative positions of these parts are important and is shown drawn in J, if this is got right, as

the spindle is rotated the lever M will move from side to side.

Cut the saw K from sheet brass, also lug L, and rivet or solder the latter to K where indicated by dotted lines.

The handles of the saw are 3 in. lengths of $\frac{1}{2}$ in. dowel rod. Slit these up for 1 in. with a fretsaw, push the ends of the saw in the slits and drive through thin nails or screws to fix.

At the spots marked A and B on J, drive in hooks, of the straight cup variety.

Place the saw where shown in J, resting on the hooks with the bent end of lever M in the hole cut in the lug. Now, on turning the spindle, the saw should move sideways. Get this satisfactory, then fix the second part J in front, as near as possible.

The Grindstone

The grindstone stand N, is cut from $\frac{1}{2}$ in. thick wood. The grindstone O is cut from stiff brass, it is shown dotted. Fix the grindstone stand to the platform with the spindle through the bearing hole, leaving just enough of the spindle to fix a small crank on. This crank should have a throw of $\frac{1}{4}$ in. no more.

The grindstone is then fixed to the spindle by soldering in the centre a screw collar. Test the whole now by setting up on the post, when the wind should rotate the driving wheel and grindstone and set the lever M swinging side to side, without any friction.

All will then be ready for making and fixing the moving figures, which will be explained in a later article.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

| NAME | ADDRESS | WANTS FRIENDS | INTERESTS, Etc. |
|------------------|----------------------------------------------------------|--------------------------------------------|-------------------------------------------|
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| E. Fielding. | 695 Rochdale Rd., Royton, Nr. Oldham, Lancs. | N. Zealand, Australia. | Fretwork, Photography, and Stamps. |
| C. Geok Cheng. | 7 Gajah Berang, Malacca, S.S. | Anywhere. | Anything. |
| K. Baber. | 7 St. John St., Oulton, Nr. Leeds, Yorkshire. | Australia. | Stamps and Fretwork. |
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| J. Jenner. | 177 Junction Rd., Burgess Hill, Sussex. | Africa. | Fretwork and Carpentry. |
| K. C. Anderson. | The Chalet, Foxfield, Broughton-in-Furness, Lancs. | Anywhere. | Stamps, Fretwork, etc. |
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A PENCIL STAND AND SHARPENER

A handy novelty, cut from a few odd pieces of wood and made up in a very short time.

THE attractive little article shown in our sketch at Fig. 1 serves the purpose of a pencil stand for the table or desk as well as a pencil sharpener. It is designed to use up old razor blades which now are made to more or less a standard shape and pattern. Any difference in position of holes in the blades can be overcome by varying the arrangement of the screws slightly.

It will be best to make up the stand first to the dimensions and pattern shown. The base is a plain rectangular piece $4\frac{1}{2}$ ins. by $3\frac{1}{2}$ ins. and $\frac{3}{8}$ in. thick, with its top edges chamfered off neatly as shown.

On this base is attached two uprights $3\frac{1}{2}$ ins. by 1 in. by $\frac{3}{16}$ in. thick, the ends being cut to the quarter circles with the fretsaw and glass-papered off smoothly. Between these uprights are erected two more pieces to strengthen up the stand and also to take the sharpener which is attached to the tops.

Assembly

The sizes of these latter cross pieces are, length $2\frac{1}{2}$ ins. width, $\frac{3}{8}$ in. and thickness $\frac{3}{16}$ in. Figure 2 gives a side view of the stand with sharpener attached, while Fig. 3 shows the stand partly assembled. Square up all the parts and glue them together and put in one or two screws, perhaps through the base into the uprights.

Stain the wood to the desired depth and either brush polish it or coat it with fretwork varnish.

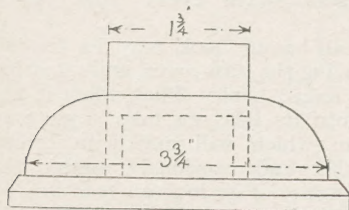


Fig. 2—A side view

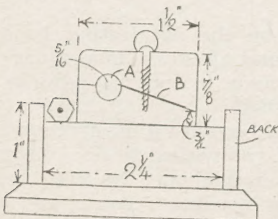


Fig. 4—An end view of the cutter and stand

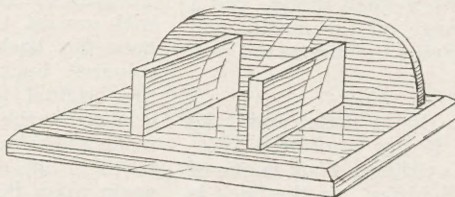


Fig. 3—The stand partly assembled

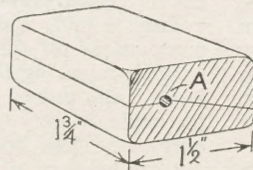


Fig. 5—Details of cutting block

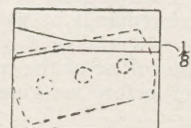


Fig. 6—Showing the blade in place dotted

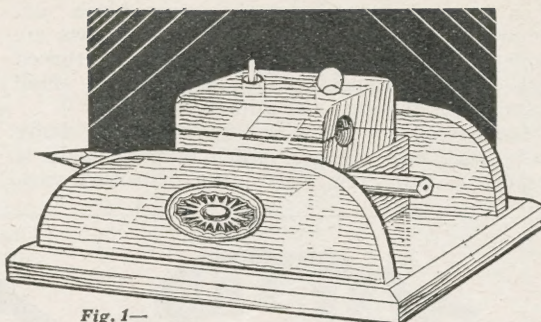


Fig. 1—
Completed Article

The simple little transfers shown on the sides are Hobbies No. 1027 and the two may be had for 1d.

The sharpening block is shown in Figs. 4 and 5, the hole in which the pencils are inserted for sharpening being indicated at A. It will be best to start making the block first into which the blade is screwed. This should preferably be of hard wood and measures $1\frac{3}{4}$ ins. by $1\frac{1}{2}$ ins. by $\frac{3}{8}$ in. It requires to be carefully cut into two parts after setting out accurately as shown in the measurements in Fig. 4.

It will be best to mark out on each side exactly alike so that the cutting may meet accurately starting the sloping cut from one end and then making the short straight cut from the other end to meet it.

After cutting, the two parts should be glued together again only with a piece of common paper between the layers. This done, an $\frac{1}{8}$ in. hole should be drilled right through at the place indicated at A, this hole serving as a clearing hole for the waste wood of the pencil. The end of the hole, forming the mouth should be enlarged with a tapered file as shown in the plan Fig. 6.

The Cutter Blade

After this the blocks are split apart and the paper carefully glasspapered off each piece of wood.

A razor blade is now procured and laid in place to ascertain the positions for making the holes for the screws which hold the blades in place. The actual position the blade should take is shown by the dotted lines in Fig. 6.

By laying it in a corresponding position on the underside of the upper-block the position again of the screw holes can be easily marked to correspond with the holes in the blade and the block drilled right through in two places.

This done, the holes are continued a short distance with the lower block. Two screws of suitable length are then put through the upper block and the blade slipped over, the screws

then being inserted into the lower block and screwed home. Round headed brass screws are preferable for the job, and these may be turned into wingscrews quite easily by soldering small circular uprights into the slots as shown.

By having two such screws, they are easily taken out and replaced when a new blade is needed, a turnscREW thus being dispensed with

altogether. The type of screw with its head soldered in is shown in Fig. 4.

It only remains now to clean up the finished block, stain it and varnish it the same as the stand and glue it in place on the cross pieces of the stand leaving sufficient space each side for pencils to rest.

This unique little stand and sharpener could be made up from some odd pieces of fretwood.

POTTED HOBBIES

THE BOOK DOCTOR

THE "Autocrat of the Breakfast Table" has said that there should be a room set aside in every house as a book hospital, and every book lover will agree that is very desirable to keep one's books in good repair, and that it is quite easy when you know how. The materials necessary are:—a glue pot, a small pot of paste, one or two brushes, a bit of small cheap sponge, and a large pair of scissors.

In these days many cheap reprints are on the market with only paper covers. If a piece of smooth brown paper is pasted near the hinge to cover each side, and a piece of white buckram glued down the back, overlapping about half an inch on each side, the buyer will have a serviceable book.

An improvement may be effected by covering the brown paper sides with a good marbled paper, and lettering the back with a broad pen dipped in ebony stain.

We are often glad to pick up second-hand books cheaply, but they are usually in need of repair. Here, a stitch in time will save nine.

If you have a cloth-covered book which has slipped out of its covers, you should first of all place it in one of those old-fashioned tablecloth presses if you have one, but if not, tie a piece of stout string around the book from top to bottom, close up to the back, so as to keep the wet out of it, and then proceed with a small sponge and a basin of hot water to sponge off the muslin and glue from the back—not having the sponge too wet.

Repair the Cover

Now leave the book to dry a little, and take a look at the cover. If it has a printed title, leave this, by all means, as titling a book is one of the amateur's greatest difficulties. If the back is limp, we shall improve it by gluing a piece of cartridge paper inside the back, of full width, from top to bottom. If the back is torn or worn away from the lids, let us first repair it by getting a piece of old lining or other material of a colour which will tolerably match the colour of the cover. This we glue inside the cover before we glue the strengthening paper.

Let us now return to our volume which has been drying. We will cut a piece of strong muslin to

cover the back, and leave about an inch free on each side. Now carefully glue the back of the book, put on the muslin, leaving a loose margin on each side, and rubbing down the muslin to the back with a paper knife. The muslin is now covered with a piece of strong paper—company prospectus paper is excellent for the job.

The best kind of muslin is the sort known as "cheese strainers" kept by all drapers, and the same person will supply you with white buckram.

In the Press

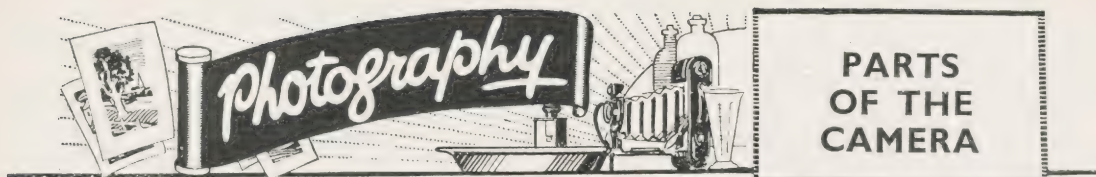
Having returned our book to the pressing process for two or three hours, we shall find the back dry and the muslin firmly adhering to the back. We now fit it into its old cover, and paste down the projecting inch of muslin on each side to the inside of the lids, putting over it a strip of paper, to prevent it sticking to the book, and replace it in its covers, putting it away again in a press, or with some weighty substance on it on a shelf.

Before pasting the book in its covers, be careful to trim the top and bottom of the muslin close to the book, so as not to be an eyesore. We shall find now a firm useful book, instead of a slatternly volume which gets worse every time it is used.

A leather or calf-bound book may be treated similarly by removing the torn cover, and repairing with muslin, the naked book. Then when it has been put back into its lids, we take a piece of coloured buckram which will match in colour the original leather and cautiously raising the leather for the distance of an inch on each lid, we make a new back of coloured buckram, glued down to each lid, and paste the raised leather down again upon it.

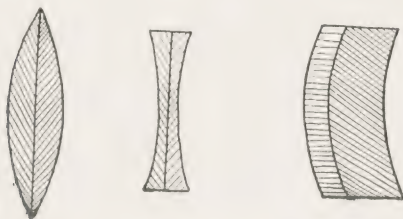
Finally, we paste on the old leather back to cover the buckram, and thus we have made our volume sound, and made to look as good as its companions on the shelf.

Book-repairing thus becomes a most interesting hobby, and indeed, if you wished to do so, it may be made a very profitable one, because nearly every one has books needing repairs, and will not grudge a small sum to anyone prepared to do the work satisfactorily.



THERE must be many readers who have had a camera presented to them and, doubtless, between now and the Summer this number will be considerably added to, because photography is now recognised as one of the finest hobbies. It is so full of interest and fascination, it can be practised anywhere and at any time, and the materials which are supplied today are so good and so inexpensive that excellent results are easily obtained. Owners should, however, take a little trouble to learn more about the camera as to its capabilities.

When you had your camera given to you, you read the instructions or the man who sold it, told you a few things about it. He probably showed you how to load and unload it, finally telling you to take the spool to him to be developed and printed.



This final instruction was very bad. If you have cut out an interesting model and got all the pieces ready you would not think of taking them to a cabinet maker for him to put the model together. You would be losing the best part of the job. So it is with your photography. One of the best and most enjoyable parts of the work is the developing and printing and this series of articles are being written so all readers who have or are going to have cameras will be able to become real amateur photographers and not merely 'button pushers.'

Know What Your Camera Does

We want you to follow each article very closely and to try for yourselves the experiments and processes which we suggest as soon as you can. If you do so then we can promise you that you will add a great deal to your knowledge. It will be of a valuable nature and may be useful to you in your future, for photography today is a great industry and art.

It is not any use talking about photography until we have learned all we can about our cameras, so we must devote some time to these. All cameras whether of the box, folding, reflex or stand type have certain parts which, so far as their work is concerned, are identical.

The first of a new series of really helpful articles, written by an expert to tell you how to get the very best out of your camera, without unnecessary expense. Read it regularly.

For instance there must be a lens, a shutter, and a position for the film or plate. So it follows that it is possible to write of such parts and for you to understand our meaning whether your camera is one that cost several pounds or only 15/- or even less.

The Lens

The most important part of a camera is the lens. Its work is to collect the rays of light which are reflected from any object you intend to photograph and to pass them through to the emulsion on the film in perfect order, both as regards position, distance and light value. If you will turn to the sketch you will see how this occurs.

A lens, remember, is not simply a piece of glass. It is a piece of scientific apparatus and some run into very high prices indeed because of the particularly exacting and highly skilled workmanship required in the manufacture of them. Most of the lenses in the folding type of cameras costing say 2 or 3 guineas, would, if you were to take out the lens to examine—(please do not do so!)—be found to consist of two sections very carefully joined together with a cement to exclude any air. The outer faces are curved whilst the more expensive type might have four sections with each surface mathematically curved and fitting so accurately as almost to remove the necessity for any cement between them.

This accuracy is necessary in order to prevent distortion of the image when it is focussed on to



the film. The lens of your camera is in all probability known as an "Anastigmat" which means it has been carefully corrected against astigmatism and is capable of producing 'pinpoint' sharpness in the image.

Lens 'Stops'

If your camera is not loaded, please have it in front of you whilst reading this, you will notice that there are some little round holes in a piece of

metal close up to or at the back of the lens. If you move a little lever situated just below the lens you will see that you can place either a small hole or a large one in front of the lens and right in the centre.

Some of the cheap box cameras only have two or three such holes whilst the better and higher priced will have a whole series of them. Now we must not call these 'holes' any more but must give them their right name—'stops.' Every reader, too, should understand the meaning and the use of these.

"Stop" Marks

We will assume that yours is a folding camera with a moderately good lens. You will see that there is a small piece of metal under the base of the lens with figures printed on it. They are F 6.5, 8, 11, 16, 22, and if you place that little pointer on to 6.5 you will get a big opening in front of the lens. Now move the pointer to the next number and the opening becomes smaller. Continue this to 22 and you will get the smallest opening.

Now every one of the openings or rather the



Fig. 5
Lens showing the big "stop"



Fig. 6
The "stop" plate and indicator



Fig. 7
The shutter speed plate and pointer

diameter of them is proportional to each other. The second largest is half the diameter of the largest and the third half the second and so on to the smallest. Further the diameter of each is also an exact proportion of the distance between the lens and the position of the film.

These facts are interesting because you should realise that in the manufacture of each part of the camera, a certain amount of scientific knowledge has been introduced. Quite apart from this, however, it is advisable that you should know there is a definite value to each of the stops, because they play such an important part in exposures.

The Shutter

On many cameras there is another little metal plate placed above the lens, and on this you will find some letters and figures engraved such as T, B, I, $\frac{1}{2}$, $\frac{1}{4}$, 1/10, 1/25, 1/50. The T stands for Time, the B for Brief and the figures represent the fractions of a second. Again you see a little pointer, and if this is placed over the T your shutter is set for a time exposure. By pressing the trigger you will open the lens and the film will be exposed until you again press the trigger this time to close the lens. Put the pointer over B and

when you press the trigger the lens opens, but as soon as you remove your finger from the trigger the lens will shut.

Now carry on by placing the pointer on to the figure I, press the trigger and you will expose the film for one second and so on. The pointer and the trigger are connected and work in conjunction with each other.

Now let us link up the work of the Shutter and the Stops, you will remember that earlier on you were told that the stops gather up the rays of light to pass them to the film. Well the bigger the stop the quicker the light will get to the film.

The Question of Time

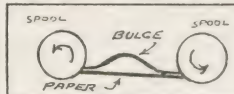
If, then, a bunch of rays requires $\frac{1}{4}$ of a second to pass through F6.8 that same bunch will require $\frac{1}{2}$ to pass through F8 and one second for F11, simply because each of the stops is half the diameter of the one preceding it.

Take this one step farther, for those who have had a little experience already. Suppose you have been using a slow film which wanted an exposure of 1 second at F6.8 and you decided to use a different make of film which was twice as fast as the other. Well you could do one of two things, you could use the same stop F6.8 and give $\frac{1}{2}$ second or you could use a smaller stop F8 and give the same time one second.

We shall have something more to say about exposure later, but the next instalment will deal with the work of other parts of your cameras.

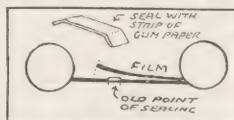
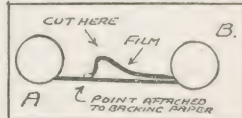
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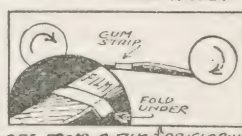
SOMETIMES IT IS NECESSARY TO REMOVE A FILM THAT ONLY PART USED FROM A CAMERA TO EFFECT, SAY, SOME REPAIR. THIS MEANS ROLLING IT RIGHT THRO' THEN RUNNING IT BACK ON TO THE FIRST SPOOL AGAIN (IN THE

DARK) FOR RE-PLACING IN THE CAMERA. WHEN ROLLING BACK A BULGE ALWAYS APPEARS AS ABOVE, WHICH IT IS HARD TO GET OUT & WHICH WILL CAUSE BAD FOCUS IF LEFT. THE TROUBLE MAY BE OVER-



COME AS FOLLOWS (1) DO NOT MIND THE BULGE BUT ROLL BACK TILL THE PLACE WHERE IT IS ATTACHED IS REACHED, NOW HOLDING SPOOL B TIGHTLY CUT THE FILM RIGHT ACROSS. (2) THE END WILL ADVANCE A

LITTLE AND CAN BE RE-SEALED WITH A STRIP OF STRONG GUMMED PAPER. IT CAN NOW BE REPLACED IN THE CAMERA AND ROLLED FORWARD TO THE RIGHT AND IT WILL NOW BE AS FAST AS ON IT FIRST JOURNEY THROUGH. THIS IDEA CAN BE USED TO CUT SINGLE PICTURES FROM A FILM DEVELOPING

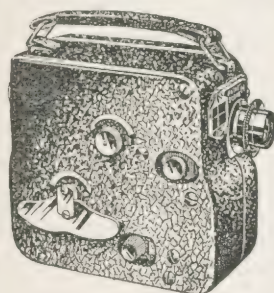


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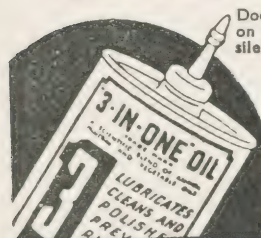
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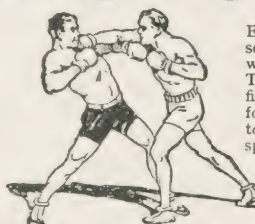
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A Fight Against Rupture



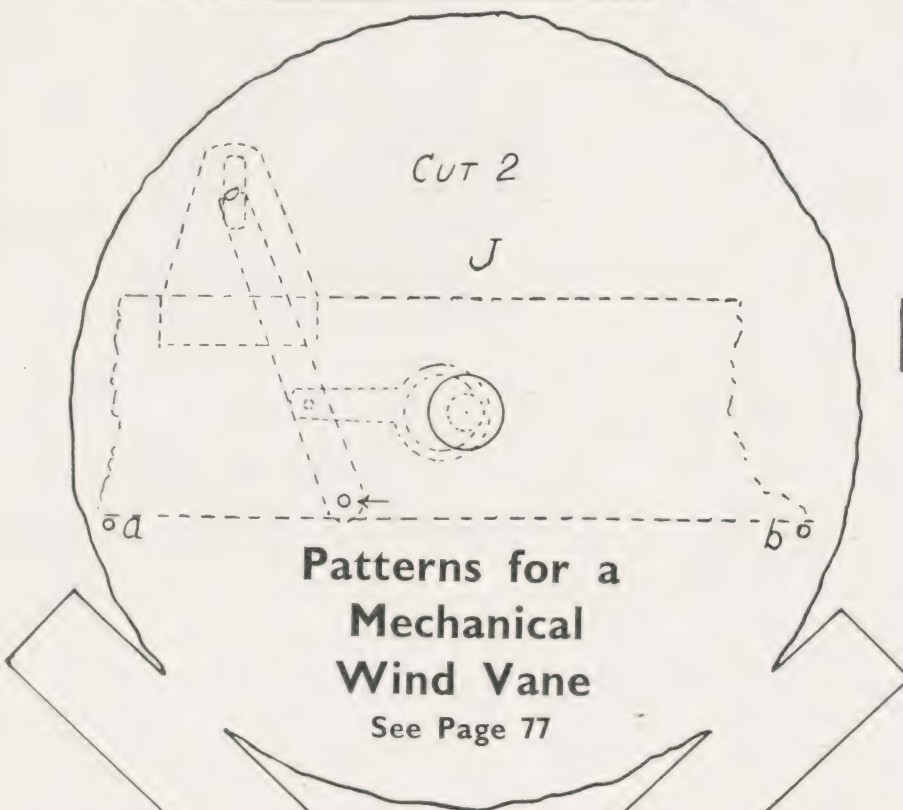
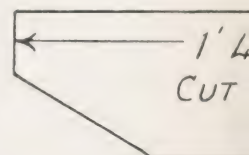
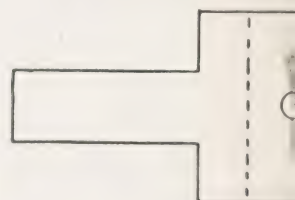
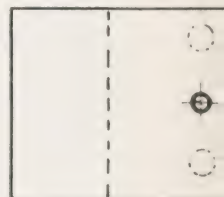
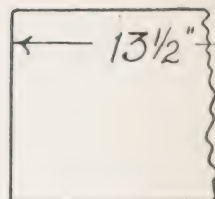
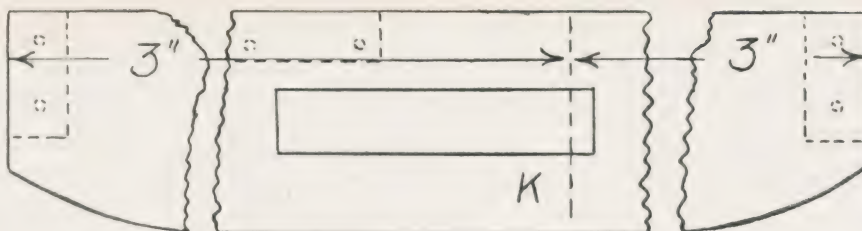
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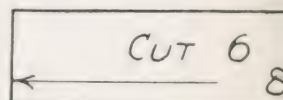
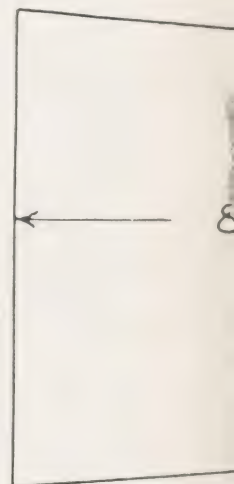
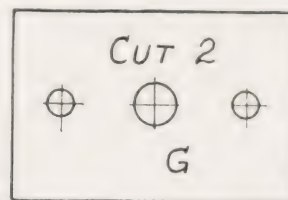
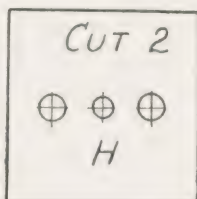
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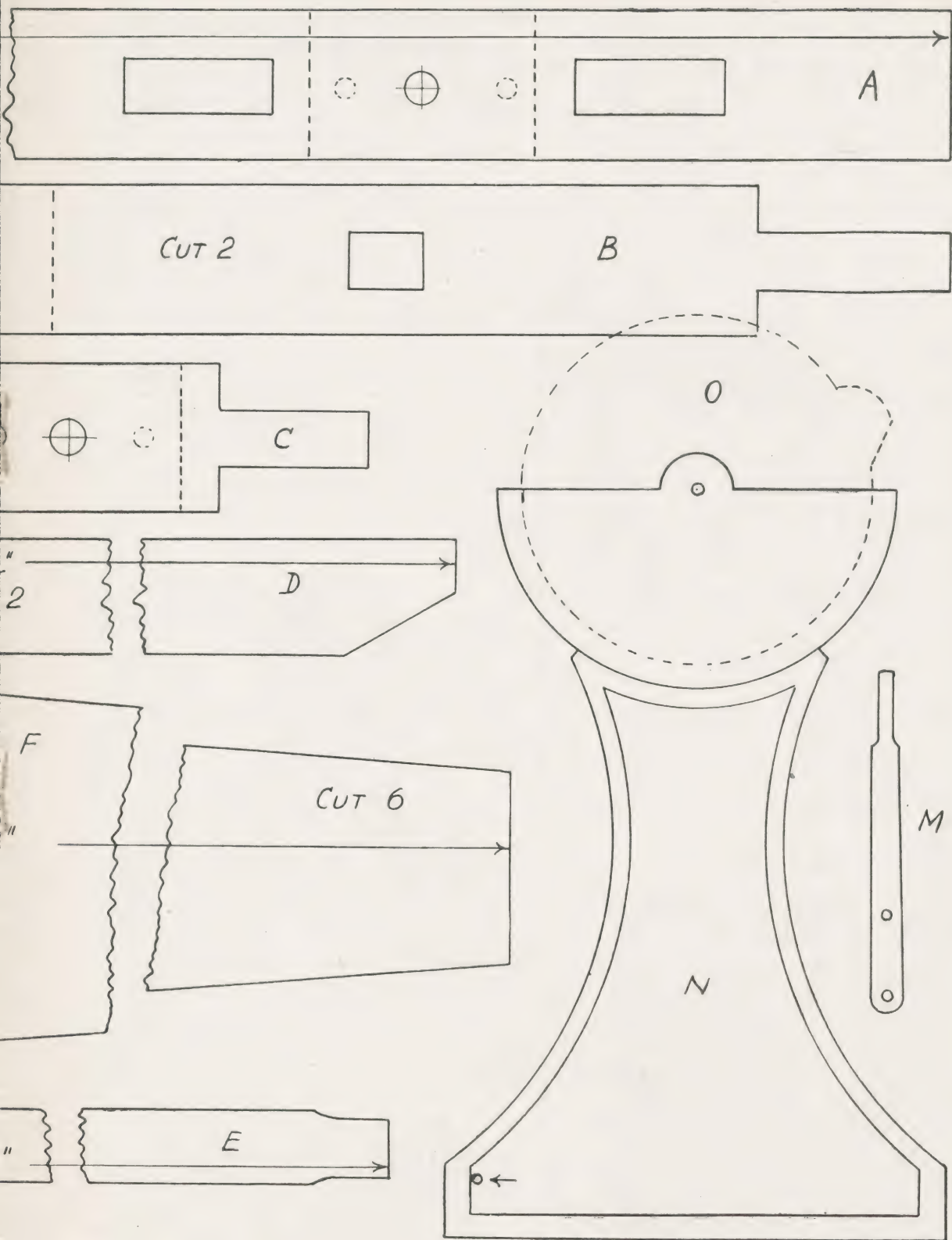
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Patterns for a Mechanical Wind Vane

See Page 77





THIS WON'T HAPPEN



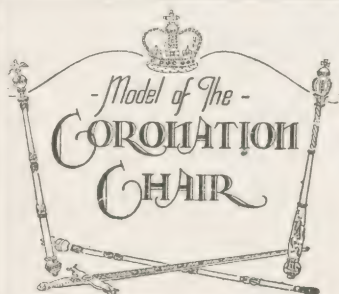
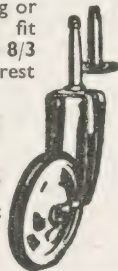
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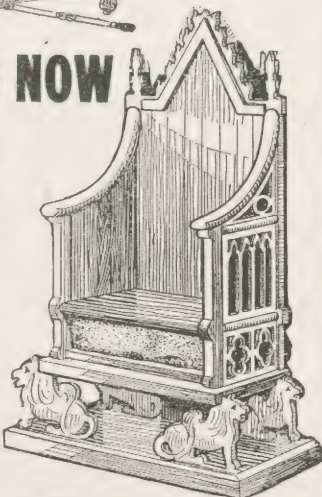
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YOU HAVE BEEN WARNED BY RADIO

Professor Hilton on November 19th, 1936 from the B.B.C. broadcast a warning. The warning was to the effect that while there are many really good and reliable Colleges teaching by correspondence, there are many others which are colleges by name only. He said some so-called colleges rented a couple of rooms in a large building in a well-known street. Some made great promises which they did not intend to fulfil. Some claimed successes they could not prove. In some cases the names of prominent men were quoted who were in no way connected with the working of the College.

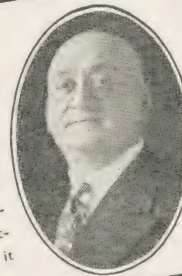
NOW BE ADVISED BY ME.

The big name of a College is no proof of its national standing. The Bennett College has been established over 30 years and our entire building is devoted to Bennett College work. No other business of any kind is either on or attached to The Bennett College. We have seating accommodation for over 10,000. We have a permanent staff of over 190 people on the College premises. Our Professional Staff have all passed their examinations, and our tutors are all experts in their own specialised work. We do not send out any homework to be corrected by tired, spare time tutors. All students' homework is corrected on the College premises the same day it arrives and is returned by evening post. This College is Technical, Scientific, General and Commercial, thus enabling us to cater for all requirements; this is important to Cost and Works Accountants, and all who have to deal with rate fixing, machinery allowances, and is also of great importance in many of the Civil Service Examinations. This is an entirely British College. Most of our textbooks are written on the College premises by our own professional staff, especially for tutorial purposes. Our tutors specialise in teaching students for the examinations they themselves have already passed.

THERE IS NO OTHER COLLEGE IN THIS KINGDOM THAT CAN CLAIM ALL THE ABOVE ADVANTAGES. It is not necessary for students to attend the College; we can send exactly the same tuition to you by post for a reasonable fee payable monthly.

LET ME BE YOUR FATHER

Let me tell you how to make a success of your career. If your future is undecided or appears unsatisfactory, let us talk it



over together. I want to help, and it will cost you nothing to get my help, you will be under no obligation whatever.

J. B. Bennett

Knowing that you are master of your job gives you self-confidence and personality, but a Diploma from a College is absolute proof of your efficiency. The nature of our business makes us keep in touch with employment requirements in all parts of the world; therefore we specialise in preparing students for the good positions which we know exist, and for all the worth-while examinations. We are prepared to produce, on demand, over 10,000 unsolicited testimonials from successful students, or in default we will hand over £100 to charity.

THE ABOVE VAST ORGANISATION CAN HAVE BEEN CREATED ONLY BY THE SUCCESS OF OUR STUDENTS.

If it is your desire to make progress and establish yourself in a good career, write to us for free particulars on any subject which interests you, or if your career is not decided, write and tell us of your likes and dislikes, and we will give you practical advice as to the possibilities of a vocation and how to succeed in it. You will be under no obligation whatever. It is our pleasure to help. We never take students for courses unless we feel satisfied they are suitable.



Dept. 62, THE BENNETT COLLEGE, SHEFFIELD

AN INDOOR CORONATION PROGRAMME

HOME CHEMISTRY



EVERYBODY is talking "Coronation." Flags, bunting, and decorations are on all sides; seed merchants have for months past been advertising red, white and blue flowers of all species. Why, then, may we not bring the Coronation spirit into our chemistry? Rather a queer idea, maybe, but it will be interesting to formulate a programme of entertaining experiments of which the national colours form the background.

Imagine you have a few of your friends in for the evening, and are giving them a little demonstration of chemical magic. You could let your conversation, or patter, follow these lines.

Suitable Patter

"We've been seeing a lot of the red, white and blue of old England lately, chaps. We chemists are rather a quiet crowd as a rule, but I don't see why we should not take a part in these Coronation celebrations by demonstrating what we can do with these three colours.

"Firstly, who'd like a drink? All of you, I see. Right. Here's a jug of water and some glasses. Cordial is red, isn't it? At least, the raspberry or strawberry kinds are. I'll pour out a glass of this water—gee, look at that! Red cordial, wine, or claret, call it what you will. Another glass—dash it, its water again. What's the third? Cordial. Good! The fourth, water. Fifth, cordial. Sixth, water. Seventh cordial. And so on.

"What's that, Charlie! You'd like milk? O.K. Two more glasses of water here, not quite full. Pour one into the other, so, and here's your glass of milk. That puts us right for red and white. (I should have been a poet). But I can't remember ever having seen a blue drink.

"On the other hand, we are all very familiar with blue writing ink, so let us take this sheet of

plain white paper, spray it with water from this scent spray, and hey presto! here's a message to you all clearly outlined in blue lettering.

"What's that? Can I produce the same message in red ink? Sure! Another sheet of white paper. Another scent spray. Squeeze the old bulb—voila! the same message in red lettering. You can't catch a good chemist. Why, look at this! I dip a pen into a glass of water, write on this piece of paper, and even as I write the water turns to red ink.

The Blood-Stained Dagger!

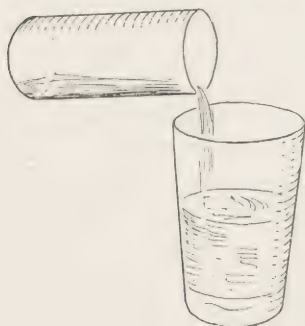
"Now I take this dagger—its only a rubber one, bought from a toyshop, but I pass it sharply over the back of my hand and—well, I would not be so foolish as to cut myself to pieces, but that blood-red streak has made some of you gasp, I notice. If any of you chaps are interested in amateur theatricals, come and see me afterwards. I will let you into the secret of this trick, which is splendid for a nice juicy murder scene.

"What is that challenge, Jack? I can't produce white writing? Well, I admit that would be rather unusual, but to get white writing to show up we must take this sheet of dark-coloured paper, gently spray it, and there you are. A message has appeared from nowhere in white writing.

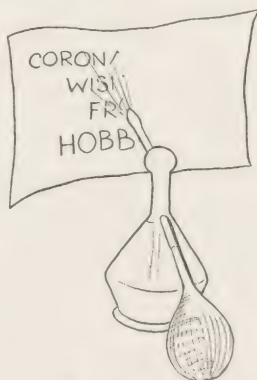
"Oh, so you want something more elaborate, do you? Well, watch this. I take a small jug of water. I pour some into this glass, and the colour is red. I pour some into the second glass, and it is white. I pour some into the third glass, and it is blue. That's a pretty good result, isn't it, from the same jug of liquid?

The Union Jack

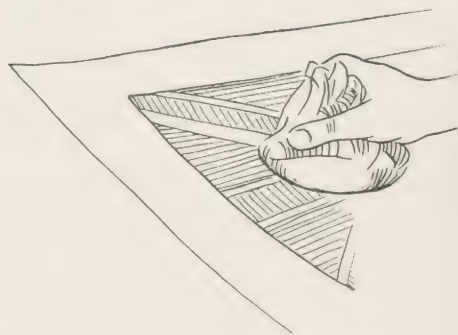
"And now, as my *coupe de force*, or if you like to translate that into English, my grand slam. I'll take this last sheet of plain paper, rub it over



Two colourless liquids make milk



The Magic Scentspray



Producing the Union Jack with cotton wool

with a piece of ordinary cotton wool, and there, before our very eyes, appears the familiar outline of the good old Union Jack!"

How it's all done?

That given is a suggestion for an evening's entertainment in chemical magic, using only the three national colours. Many of you will want to vary it to suit your own particular fancies, and that's where you can use your ingenuity, plus the knowledge and experience you have gained by reading these articles. Now for the explanations of the given effects, stated briefly on account of space, but with sufficient detail for you to carry out these experiments with success.

How the Tricks are Done

(1) Previously dissolve two teaspoonfuls of tannic acid in your main supply of water. Into each alternate glass put a drop or two of tincture of iron. As most glasses have thick bases this will not be apparent to your audience.

(2) If the two half-glasses of water are actually weak solutions of manganese sulphate and sodium carbonate respectively, when mixed they will produce a liquid similar to milk. Alternatively, you can use a solution of calcium oxide and a solution of sodium carbonate.

(3) You have previously written your message on the sheet of paper, using a solution of cobalt nitrate as ink. The spray contains a strong solution of ammonia water.

(4) Write with a solution of iron chloride and

spray with a solution of sodium sulphocyanate. Red lettering results.

(5) Previously rub over the surface of the paper with a mixture of equal parts ferric ammonium sulphate and sodium salicylate, and write with ordinary water.

(6) Rub a solution of iron chloride over the back of your hand first. Dip the point of the rubber dagger in a solution of sodium sulphocyanate. A crimson streak will appear in the path of the dagger across your hand.

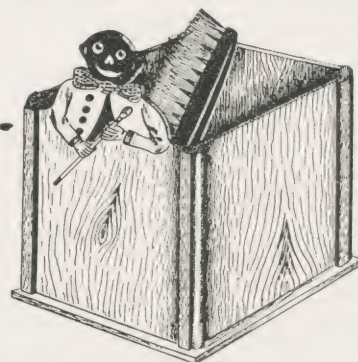
(7) To produce white lettering, write on a sheet of dark paper or cardboard with a solution of barium chloride in water. Spray with a weak solution of sulphuric acid. In all these magic writing tricks see that the paper has dried thoroughly before spraying.

Producing the Flag

(8) In your first glass, previously put a few drops of sodium salicylate solution. The second glass is unprepared. The third glass contains a few drops of sodium ferrocyanide solution. The main supply is water in which some ferric ammonium sulphate has been dissolved.

(9) Previously draw a Union Jack on the sheet of paper in very faint pencil outlines. Paint the portions that are to be red with a solution of potassium thiocyanate in water, proportions 1 : 8. Paint the blue parts with a solution of potassium ferrocyanide, 1 : 4. The piece of cotton wool has been dipped in a solution of ferric chloride.

A SIMPLE CLOTHES BRUSH HOLDER



HERE is a novel clothes brush holder which will delight any friend, and the article is quite simple to make, since grooved corner moulding is used in the construction as shown. Either No. 36 or No. 45 is suitable, as having a groove to take the $\frac{3}{16}$ in. panels forming the sides. The

moulding is, of course, obtainable from Hobbies, Ltd. at $1\frac{1}{2}$ d. a foot.

First cut off four pieces of the moulding with $\frac{3}{16}$ in. grooves, and take care to get the ends nice and square, the length of the pieces are 6ins. The front of the holder is made in one piece from wood $\frac{3}{16}$ in. thick and this is indicated in Fig. 1.

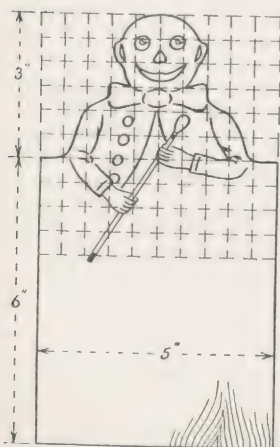
First cut the wood 9ins. long by 5ins.

wide and divide the top portion into $\frac{1}{2}$ in. squares, and the figure can then readily be drawn from the details in Fig. 1. When cutting the edges of the figure take care to keep the saw square with the face of the wood.

The two sides and back of the holder are simply pieces of wood $\frac{3}{16}$ in. thick cut to size 6ins. long by 5ins. wide. The parts thus cut are fixed together simply by sliding into the grooved moulding and making secure with a little glue.

The bottom of the holder is a piece of wood $\frac{1}{4}$ in. thick cut $6\frac{1}{2}$ ins. square, and this is fixed in position by means of glue and small nails driven through into the moulding from underneath.

The article can be neatly finished off by shading the figure in the front with enamel paints the colours to suit one's own taste, and the rest of the box can be stained or enamelled.



A NOVEL TABLE GONG

A PRETTY little set, don't you think? Its artistic outline and novel appearance makes it "easy to look at" and earn praise, not to mention the sweet, dulcet tone of the gong itself. A gentle tap with the beater, and it vibrates in a pleasant manner—ininitely better than the raucous noise of a bell.

Difficult to make?

No fear! While the gong plate *must* be cut from sheet brass, the rest may be cut from plywood, including the statuette figure. The statuette, however, looks fine when cut from the brass and polished up to a bright gloss, which is the original idea.

The Gong Plate

The alternative of plywood is mentioned in case you have no metal-cutting saw blades available for use with the fretsaw frame. Regarding the gong plate, this can be cut out quite easily in the ordinary way with a pair of shears or an old pair of scissors.

At the moment, decide on the thickness of the brass to be used, not only for the gong, but for the statuette, too, if you intend to have it in metal. The most convenient thickness is 22 gauge, this being about $\frac{1}{16}$ in. thick. A piece 6 ins. square would give you more than necessary for both; any local hardware store would supply you with it for 6d. or thereabouts.

To apply the design plotted in the diagram of reduced $\frac{1}{2}$ in. squares at Fig. 1, the outlines should be followed to actual size on drawing (cartridge) paper. The design is then transferred to the brass sheeting via black carbon paper—or again,

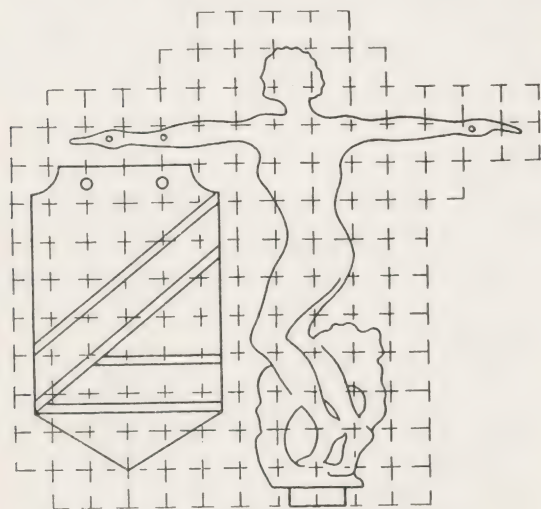
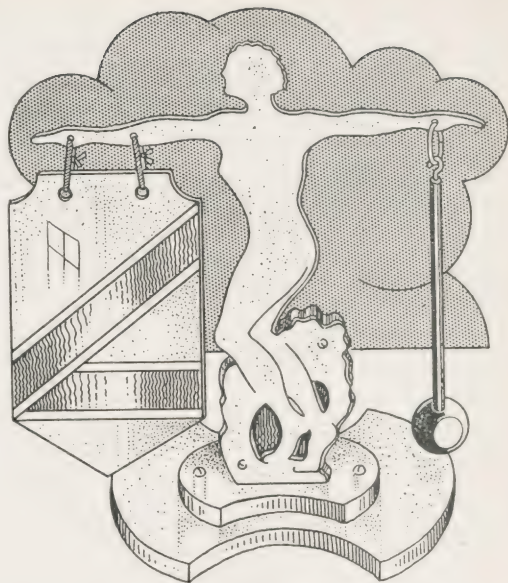


Fig. 1—The plate and figure in $\frac{1}{2}$ in. squares



you could cut out the design from the paper and use as a template for *scribing* the shape to the brass.

Decorating the Gong

A simple decoration for the gong is suggested throughout. Therefore, having drilled the two $\frac{3}{16}$ in. cord holes, the border fold is scribed (scratched with a sharp, steel-pointed instrument) with the aid of a ruler, then etched as depicted in the finished illustration.

You could do this with a sharpened bradawl point, working the point (while pressed firmly against the brass) from side to side to form a chain of tiny inter-linking, zig-zagging wriggles, not just as indicated, but much in the same way as souvenir name plates and aluminium shoe horns were bordered at one time.

If desired, you could decorate both sides identical or different or be content with one decorated side and one plain. The edges should be slightly rounded with a file, then the whole polished with a metal polish.

Clean up with a soft, dry rag and a clean boot

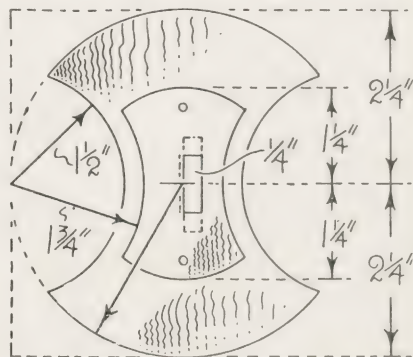


Fig. 2—Detail of the base piece

brush, then—in order to retain the shine, that is, make it permanent—the plate may be given a thin coat of clear varnish. This is not essential.

Whether you cut the statuette figure from $\frac{1}{2}$ in. birch plywood or 22 gauge brass, it should have no tenon at the base as outlined. The backing or supporting block must only have this tenon for assembly to the base piece.

Holes are drilled in the figure's arms for thin, fancy cord and a small brass ring, and—as will be seen from the sketch—at the legs for securing to the backing with $\frac{1}{4}$ in. by 3 roundhead brass screws.

When cleaned, polished, and varnished (if cut from brass) as previously explained, set it carefully

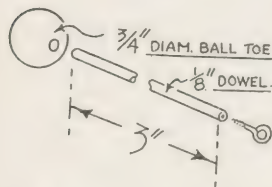


Fig. 3—Details of beater

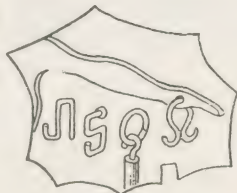


Fig. 4—Beater connecting hooks

aside meanwhile. If cut from plywood, clean it over with fine glasspaper and then proceed with the bases.

The base pieces are cut from $\frac{1}{2}$ in. plywood, the diagram at Fig. 2 giving all necessary dimensions. The shape is mostly compass work. The top base (mortised) piece is first circular ($2\frac{1}{2}$ ins. diam.) prior to being scalloped with a $1\frac{3}{4}$ in. radius from two sides as indicated by the arrow. The same procedure is followed with the $4\frac{1}{2}$ in. diam. base piece, this having no mortise.

Clean up both pieces smoothly with glasspaper, then glue and screw the top piece exactly in the centre, using $\frac{3}{8}$ in. by 3 roundhead screws. Glue the backing piece in the mortise and attach the statuette temporarily.

The Gong Beater

A simple little beater for the gong is detailed at Fig. 3. This is composed of a $\frac{3}{4}$ in. diam. ball toe (No. 20) and a $3\frac{1}{2}$ in. length of $\frac{1}{8}$ in. or $3/16$ in. dowelling. Remove the dowel stub from the toe

and drill a suitable hole at that part of the ball to about $\frac{3}{8}$ in. deep.

Glue the dowel into same. A small brass screw-eye is screwed into the dowel end. It would be advisable to drill or make a hole in the end with a fine bradawl first to prevent the wood splitting when inserting the screw-eye.

There are several alternatives in making the connecting hooks. The detail at Fig. 4 shows a few, the ring and open hook being one good form. This ring is bent from thin brass wire, a piece of $\frac{1}{2}$ in. dowelling giving the jig or mould or you could use a $\frac{1}{2}$ in. diam. split picture hook ring.

With the other hooks shown, it would not be necessary to open the screw-eye. The advantage of the hook shown in the arm is that it serves from both sides of the novelty.

Enamel the Work

As a finish, the bases could be polished ebony, including the beater. On the other hand, you might prefer to colour the parts with enamel or cellulose paint. The colours should be preferably

MATERIALS REQUIRED

- 1 piece plywood, 4 $\frac{1}{2}$ ins. by 4 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 2 pieces plywood, 2 $\frac{1}{2}$ ins. by 2 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 1 piece dowelling, 3 $\frac{1}{2}$ ins. by $\frac{1}{8}$ in. (and) 3/16 in. diam.
- 1 ball toe (No. 20), $\frac{3}{4}$ in. diam.
- 1 piece sheet brass, 6 ins. by 6 ins. by 1/16 in. thick.
- 1 small screw-eye and ring.

ALTERNATIVE LIST

- 1 piece plywood, 4 $\frac{1}{2}$ ins. by 4 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 2 pieces plywood, 2 $\frac{1}{2}$ ins. by 2 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. thick.
- 1 piece dowelling, 3 $\frac{1}{2}$ ins. by $\frac{1}{8}$ in. (and) 3/16 in. diam.
- 1 ball toe (No. 20), $\frac{3}{4}$ in. diam.
- 1 piece sheet brass, 4 ins. by 2 $\frac{1}{2}$ ins. by 1/16 in. thick.
- 1 piece birch plywood, 6 ins. by 6 ins. by $\frac{1}{2}$ in. thick.
- 1 small screw-eye and ring.

bright, and an ideal scheme is to colour the backing bright green (including the top piece) with the base bright red.

The beater could be treated with both these colours or polished ebony. If the statuette has been cut from plywood, the best colour would be cream or pure white. Incidentally, it is not necessary to "fill in" feature and other details—just a plain statuette looks better and is easier to do. Fancy twist cord is used for attaching the plate, but silk ribbon is excellent. The base should be covered with baize.

Papering—(Continued from opposite page)

strip next to it and that the pattern matches.

Where it has to be trimmed to fit around the door framing and windows, crease first with the scissors and cut along the crease exactly as for trimming at the cornice and skirting.

When reaching the angle of the wall past the door, cut the paper lengthwise, before pasting, see that it is just wide enough to reach the angle and $\frac{1}{2}$ in. beyond, the final strip to be hung being cut wide enough to reach the angle only, so overlapping the $\frac{1}{2}$ in. strip left.

The paper can be folded round the outside angles of the alcoves without difficulty but, dealing with the inside angles it is wiser to cut the strip lengthwise and paste in two parts, one to

reach to the angle and $\frac{1}{2}$ in. beyond and the other to enter the angle and cover the overlap. No break in the pattern will be noticeable.

Sometimes the paper is not hung the full height of the room as a portion of the wall, near the ceiling, called the frieze, is left having previously been whitened like the ceiling.

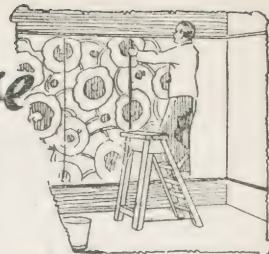
When this is done, the top edge of the paper is hidden by a border strip pasted along, or a length of picture moulding. To avoid as much mess as possible, cover the floor with sheets of newspaper, also the table on which the pasting will be done.

If a first attempt is being made then choose a small bedroom, the tips learnt from this first job will inspire confidence to attempt a larger room.



Jobs about the House

PAPERING



PAPERHANGING a room is one of the household jobs every fellow would be wise to try his hand at. With reasonable care it is possible to make a good job at the first attempt and no expensive tools are necessary.

The paper is bought by the roll and 6 rolls are necessary for a medium sized room and 7 to 8 for a larger one. There are 12 yds. of paper, 22ins. wide in a roll so it is not difficult to reckon out the quantity required adding 1 extra roll for waste.

Make a start by stripping off the old paper and stopping nail holes, etc., with plaster, then give the walls a coat of size. Two pounds of size, melted in a pail with a little water will suffice for the latter job.

Lengths

Cut off a length of paper as high as the room, measuring from the top of the skirting board to the cornice, plus 4ins. for trimming. Lay this on the floor and unrolling from the rest of the roll place it edge to edge with the first length cut to match the pattern. Now cut off another length, the same as before, and then more lengths, matching the pattern of each until sufficient lengths have been cut to reach half round the room.

Ignoring the first length cut, trim off one side of the edging of each to the pattern. Start

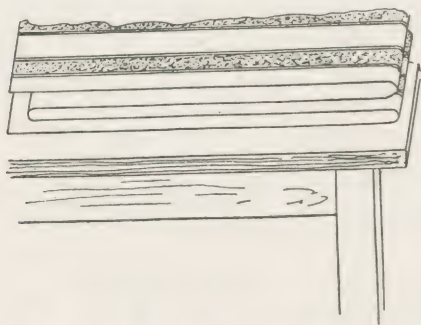


Fig. 1— How to fold paper after pasting

papering the room from the alcove nearest the window and work from these to the left until reaching the angle of the wall past the door, then recommence from the starting place and working to the right finish the job.

If in doubt about which side of the edging of the paper to trim off remember to cut the right side edging when working to the left and vice versa.

The paper should be hung truly vertical, especi-

ally if it happens to have a striped pattern, and to ensure this a plumb line should be used. A useful one is sketched at Fig. 2. It is a 6ft. length of $\frac{1}{2}$ in. by 1in. wood, to the exact centre of which is screwed, top and bottom, a cupboard hook.

The lower hook is filed to a point and the plumb line is suspended from the top hook so when it is truly vertical the pointed end of the weight will hang exactly over the pointed end of the lower hook. Placed against the wall thus, a pencil line drawn down one side on to the wall will serve as a guide for hanging the first strip and subsequent strips if necessary.

Suitable Brush and Paste

Lay several strips of paper on to a table or pasting board, the pattern underneath, ready for pasting. Provide a flat brush, about 4ins. wide, and a basinful of paste.

The latter is best bought in powder form and mixed with water; a sixpenny bag being enough for a small room.

Now paste, liberally, about 4 ft. of the paper and fold the pasted portion double. Paste the remainder of the strip and fold that double, then place the two folds together, as in Fig. 1, ready for hanging. In the sketch, the folds are shown apart for clearness, actually, of course, they are stuck together.

Hold the paper between the fingers and drawing apart the first fold flatten it to the wall, taking care that the paper hangs level with the pencil line.

Now pull apart the lower fold, draw a clean cloth down the centre of the paper and work outwards to the edges to stick the paper to the wall without creases. If it does not hang level with the pencil line, draw it gently away from the wall and bring it up to the line.

Cutting the Ends

The paper should now be pressed firmly to the wall with the cloth. Draw the back of the scissors along the paper where it touches the top edges of the skirting board, lift it and cut along the crease thus made with the scissors, then press the paper back again. Trim along the cornice also.

When hanging the second and succeeding strips, see the cut edge overlaps the edging of the

(Continued on opposite page)



Fig. 2—
A plumb line

A HOME-MADE GARDEN FOUNTAIN

Continued from our last week's issue

READERS who have constructed the garden fountain, previously published in "Hobbies" will now wish to see it working.

Those intending to use a pump can obtain particulars of a firm supplying a suitable one on application to the Editor, enclosing a stamped and addressed envelope. A box-like casing should be provided for this which can be placed against the side of the fountain or a little distance away as preferred, having regard to the necessity of a lead to the nearest electrical supply point. A switch inside the box will also be required.

Prevents Choking

A brass strainer and foot valve, obtainable from the makers of the pump, should be screwed to the suction pipe to prevent leaves and foreign matter being drawn into the pump and choking it.

Connection with both delivery and suction pipes can be made by $\frac{1}{2}$ in. rubber hose, as in Fig. 1.

For the jet, the brass cap previously mentioned can be bored with 16-1/16 in. holes or a smaller number of larger holes as preferred. An adjustable jet can be bought from

the pump makers and is worth considering—it is quite cheap.

If supply is taken from the water mains then a jet as for the pump can be utilised but provision for the overflow must be made, preferably into a drain or ditch.

Where this is not feasible, a "soakaway" can be constructed. This is shown in section at Fig. 4 and consists of a 6 in. earthenware drain pipe, sunk into a hole beside the fountain. It should rest upon a thick layer of crushed cinders or loose gravel and be nearly half filled with the same.

An elevated Tank

Where an elevated tank is to be used as the source of supply, the purchase of the tank is the first consideration. Usually one can be picked up, secondhand, at a builder's yard or, if not, a 10 gallon oil drum will serve. One of these can be bought cheaply enough at a garage.

This must be mounted at a suitable height from the ground, say 6 ft. or more, on a wooden stand. Fig. 2 shows a satisfactory arrangement. The posts being 3 ins. sq. timber and cross rails $1\frac{1}{2}$ ins. by 3 ins. stuff, bolted together.

If the stand can be attached to the side of a hut or out-building, all the better, so long as it is not far away. If to stand alone, the posts should be well creosoted and sunk into the ground to a depth of 18 ins.

Lead and Soakaway

The tank will rest on cross rails A, while the stand is completed by the rails B and diagonal braces C. Paint or creosote both stand and tank.

A length of $\frac{1}{2}$ in. gas barrel leads from the tank and is provided with a brass hose connector at the end. Fig. 3 shows how the pipe is connected to the tank underneath by two nuts and a leather or rubber washer. A "soakaway" or lead to a drain is provided as before for the overflow.

With a tank of such limited capacity a more modest jet must be expected, so bore the cap with 3-1/16 in. holes.

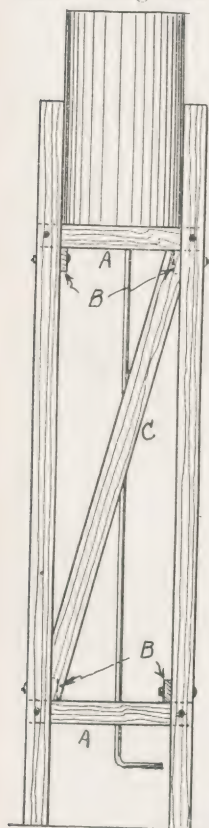


Fig. 2—The tank and stand

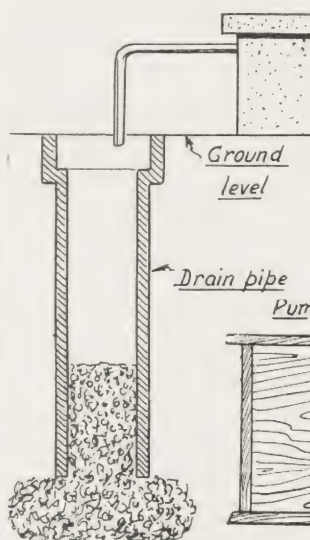


Fig. 4—Section of the soakaway

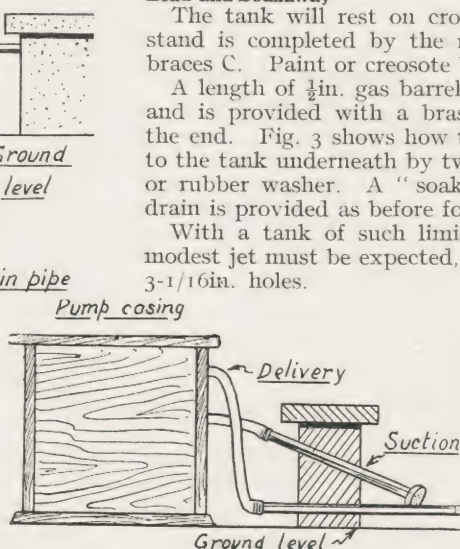


Fig. 1—A side view of a motor housing and connections

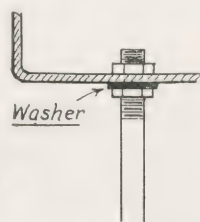


Fig. 3—The pipe connection

Special Coronation Medal Offer next week !



A Big Electrification

THE L.N.E.R. are now getting ahead with the electrification of their Manchester-Sheffield route, a job which is to cost £2,500,000. This is the first British main-line electrification scheme outside the Southern system. But the scheme does not necessarily indicate similar main-line electrifications elsewhere in the near future, as the route in question is of an exceptional nature.

From the haulage point of view, the L.N.E.R. Manchester-Sheffield run is the hardest to accomplish of any main-line journey in England. Its length is only 40½ miles, but there are less than two miles of level track in this distance.

In order to cross the Pennines the line has to rise more than 1,000 ft. above sea-level, passing through the 3-mile Woodhead Tunnel at the top. The summit is approached by a twenty-mile climb from either side, and much of the line is inclined at a gradient steeper than 1 in 130, reaching 1 in 97 at one point.

Since fast steam trains are seriously hampered by anything steeper than 1 in 150, the conversion to electric traction will considerably accelerate traffic. The density of traffic that passes over the section, together with a fine local electric power supply, are two other items that have influenced the L.N.E.R. in their big decision to supersede steam.

The most interesting aspect of the scheme is the decision to use electric locomotives for goods as well as passenger services. This has not been done before in Britain.

The electric engines to be built are as follows:—9 express passenger type, each of 100 tons weight, 69 mixed-traffic type, each of 80 tons, and 70 banking type, each of 75 tons. The latter locos will work between Wath and Dunford sidings, helping heavy coal trains up a very steep bank.

Including branch lines, the total length of L.N.E.R. track to be electrified in the area amounts to 74½ route miles, with another 74½ miles of sidings. Current will be picked up by pantagraph collectors from overhead wiring.

Locusts Ahead!

AN interesting story comes from South Africa, concerning a farmer who handed the following note to the driver of a train at a country outpost:—“Will you oblige by whistling like so-and-so as you pass through the farm in the hope of lifting the locusts—Thanks.”

The driver obeyed, and, from the farmer's point of view, everything worked O.K. All the locusts took to flight as the train steamed angrily through the farm whistling continuously.

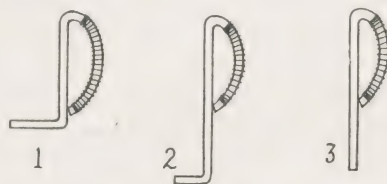
But the insects took revenge on the driver. They settled in a swarm in a railway cutting a few miles ahead, and the train was delayed several hours through the loco wheels slipping on the greasy bodies and failing to grip the rails!

L.M.S. Goes Streamline

AS we predicted two months ago, new L.M.S. Pacifics are to be streamlined. In other respects, however, the five new 4-6-2's now building at Crewe Works are generally similar to the standard Pacifics. They will operate a 6½-hour service between Euston and Glasgow, at an overall average speed of 61.8 m.p.h.

Home-made Brake Pipes

NO single addition to the fittings of a model locomotive, carriage, or perishables goods van, is so effective as a pair of vacuum brake pipes. These can be made so easily! Bend a piece of thick copper wire into the shape shown in the illustrations. Wind some very fine wire in a shallow spiral round the copper “pipe,” to represent the familiar flexible part of the vacuum brake tube. Paint the whole grey-black, and your little fitting is finished—except that it is not fitted!



The three types of handbrake pipes mentioned

Engines, their tenders, carriages, and wagons have vacuum pipes fitted at varying heights on the buffer beam, but always to one side of the couplings—usually to the right. Design 3 is an easy one to fit firmly.

Just drill a hole in the loco running plate (the horizontal frames) close to the buffer beams, pop the vacuum brake fitting down through it, and solder to the back of the buffer beam.

Type 1 is for thrusting through the buffer beam and soldering to the underneath side of the running plate. Type 2 requires no drilling, but should be soldered neatly (not so easy, this one!) to the front of the buffer beam, the “toe” merely turning underneath for effect. The lower part of the piping on this last type requires painting red, as in real practice. Take your tips from the real railways!

High Pressure

MISCELLANEOUS ADVERTISEMENTS

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London E.C.4. or Dereham, Norfolk.

MONEY-MAKING Opportunities constantly occurring; highly recommended; particulars free. Send postage.—Messrs. Green, 17 Church Lane, Hull.

LONELY? Then write Secy., U.C.C., 16BB. Cambridge St., London, S.W.1. Genuine. Estab'd. 1905.

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MENDS Everything! A liquid glue cement in tubes, 2d., 4½d., 8d., from all Stores. If unobtainable, write Mendine, 123 Borough, S.E.1.

INVENTIONS PROTECTED. Booklets gratis.—Reginald W. Barker & Co., Patent Agents, 56 Ludgate Hill, E.C.4.

PERSONS WANTED to make up leather goods at home in spare or full time. Experience unnecessary. Good Pay.—Write Dept. B7. "Universal" 17 Peel Street, Luton.

GRAMOPHONE ATTACHMENTS for Radio, electric motors, 25/-; Pick-ups, 9/6; Portable Gramophones, 12/-; spring motors, 4/6, dozen 36/-, 100 £12/10/0, 1,000 £100; Walnut pedestal Anexagram, £5; soundboxes 1/6; tonearms, horns, cabinets, needles, gears, springs, accessories, cheapest. Quantity buyers obtain lower prices. Catalogue free.—Regenthob, 120 Old Street, London, E.C.1.

BUILDING A MODEL POWER BOAT? We supply a steam engine unit, complete with propeller and shaft for only 8/6; post 6d. Suitable for boats up to 30ins. long.—Hobbies Ltd., Dereham.

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STAMPS BOUGHT.—Any Country. Cheap approvals.—Burley, 21 Jardine Road, Aston, Birmingham.

APPROVALS and Collections of Good Stamps, at cheap prices. Send 5/- for approvals.—Noorudin Sidick, Steamer Point, Aden.

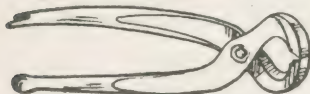
POLISH OUTFIT 2/3; post 6d. Comprises three kinds of stain crystals, woodfiller, cotton-wool rubber, bottle of Hobbies "Lightning" polish, glasspaper and instructions.—Hobbies Ltd., Dereham.

SIAMESE-CHINESE CIGARETTE CARDS. Sale or exchange. Write for catalogue.—T. Reangnetra, 1068Kh., Prachathipok Road, Dhonburi, Siam.

MAKE YOUR OWN UKULELE, Mandolin, Guitar, etc. from Hobbies designs and materials. You'll be surprised how easy and cheap it is!—Hobbies Ltd., Dereham.

LOW-WING MONOPLANE. Kit of parts for building a 3ft. 10in. wing span model with 14in. airscrew. It's a beauty! 19/6; post 6d.—Hobbies Ltd., Dereham.

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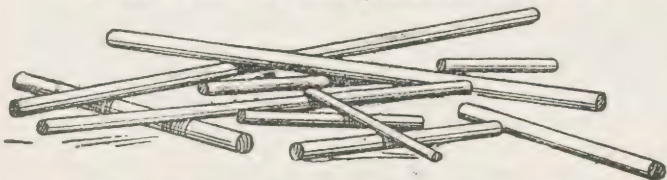


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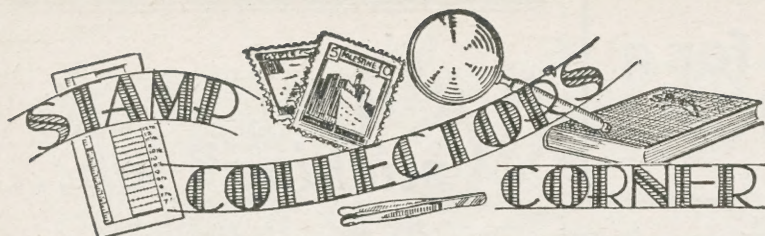


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SOME NOTES ON OUR STAMP COMPETITION

SOME time ago we ran a competition in these columns, and the result has now been given and the winner is the richer by his choice. One of the suggestions of his list was that an article should appear on the books which are useful and instructive to the philatelist.

Actually, this suggestion was the last but one on his list, and of course it is a little vague, because short of giving a complete list of all the books which have ever been published, it would be impossible to cater for everyone. Books which are suitable for, say, the junior collector, are useless for the more advanced. And those who specialise in one country are not likely to buy a book on any other country.

If any reader wishes to know the name of a book on a particular country or aspect of philately then if he should send a letter to the Editor and such information will be sent to him.

For example, it surely would not be of great interest to readers in general to inform them about such a publication as "The Postage Stamps of Uruguay" priced at 63/-.

One class of book will, however, always receive notice for the information of readers, and that is the various catalogues as they appear. Messrs. Stanley Gibbons have just issued an Air Stamp catalogue at 2/6. This is an admirable book in which all Air stamps have been collected together, so that those who are particularly keen on these stamps may have their own publication with its valuable assistance. For the convenience of those who collect Air Stamps and General issues the stamps in this catalogue have been listed so they bear the number of the same stamp in the Big Catalogue.

NOW to consider some of the other points which this competition has brought out. One competitor requests an article on "The Explanation of the Foreign writing on Stamps" Well, that, at first sight, seems to be an excellent idea. But consider a moment,

such an article would surely develop into something like a dictionary, and however valuable such a book may be for reference it is rather disconnected reading.

Readers would probably prefer to have this in small doses, but it is a point which will be remembered, so when new issues come out something about the language shall be noted, where this is of philatelic interest.

Another reader requests that we should have periodical notices of philatelic accessories which are on sale. Very occasionally one does hear of really good accessories which advanced and general collectors of the less advanced type should have. But these are few and far between, and that is all for the good too, because one of the strongest claims that stamp collecting has to popularity is that so few accessories are necessary.

An album, some stamp mounts, a catalogue and a magnifying glass are all that are essential to start properly. A perforation gauge and a watermark detector follow of course, and in the opinion of the writer readers would do better to spend any money they are able to afford on stamps and perhaps an occasional book about the hobby, than on gadgets which—well doubtless are very nice yet—are not necessary.

Private Company Stamps was given as a possible title by one reader—"Keep all stamps out of your album unless they are specimens which have been used to prepay postage." (If you cannot afford a high value postally used then have a fiscal stamp as advised before). If one goes in for railway stamps and bus package stamps and so on (you know, the type which are gummed on to a parcel sent by a carrier) then very soon you will not want a stamp album but a double-sized scrap book.

TWO last points arise. One is from a reader who suggested that since Zanzibar had issued a set of Silver Jubilee stamps an article on those would be nice. Well just about the time at which he was writing his suggestion it was

being carried out. Remember that it takes time to be able to get notes into print so readers must not expect to have new issues immediately they are out.

New Issue Notes can only be given once a month, and if a stamp is just too late for one copy of Hobbies Weekly then it has to wait for the next. That wait together with the wait for printing is why they may be apparently late.

Lastly, a reader suggested that we should draft out an appeal to the B.B.C. and that readers might send up their signature to be stuck on.

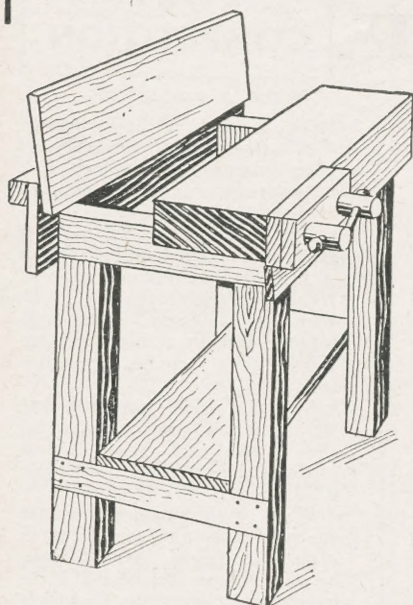
Well, for one thing, a signature which is stuck on to a second piece of paper is useless. Would it not be much better for the B.B.C. to have a letter from, say, Cornwall, another from Kent, a third from Ireland and a fourth from Scotland, than one from Dereham? The more they have the more likely they are to let you have what you want.

THE many new readers constantly being added to these pages will no doubt wonder from time to time if any articles covering subjects in which they are interested have already appeared. Without doubt, some of them have, and back copies of these issues are usually obtainable for 3d. each post free. If therefore, you would like to know whether any particular article of interest has been published earlier in this page, the Editor will be pleased to inform you on the matter. Just write to him with a 13d. stamp enclosed for a reply, and mention the subject which is of interest, asking if we have had such an article. He will be pleased to let you know.

Remember, too, we are always happy to help the beginners with advice even on particular stamps, but in no case can we attempt to value them or to offer any suggestion of price.

In writing, too, please enclose a stamp or addressed envelope for a reply, and put "Stamps" on the top lefthand corner of the envelope.

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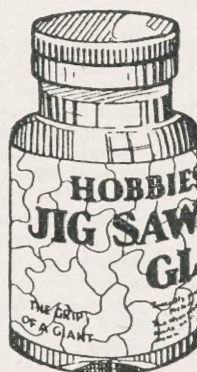
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DESIGN SHEETS.

The presentation Design Sheet is given only with current copies of Hobbies Weekly, and not with back numbers. The designs, however, can be obtained separately, from Hobbies Ltd., price 4½d., post free, or 10d. in the case of double size sheets.

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All orders and letters respecting advertisements should be addressed either to the Advertisement Manager, Hobbies Weekly, Dereham, Norfolk, or to 30/32, Ludgate Hill, London, E.C.4.

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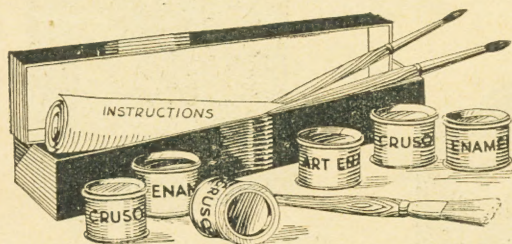
CONTRIBUTIONS.

The Editor is always pleased to consider suitable articles for these pages, which, if accepted, will be paid for at the usual rates. While every effort will be made to return unsuitable contributions (if stamps for that purpose are sent with them), the Editor does not accept any responsibility for their loss.

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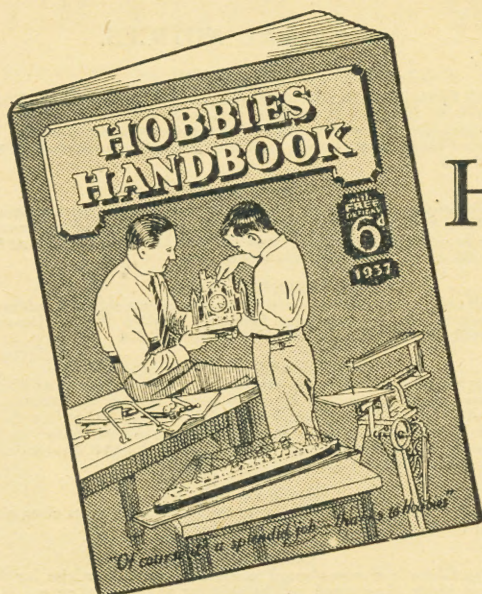
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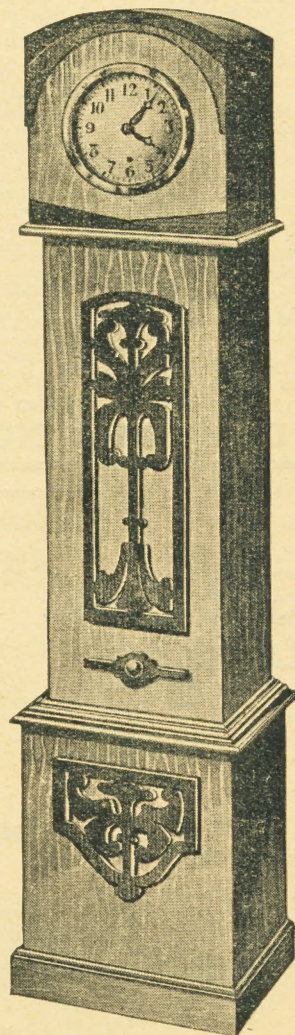
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